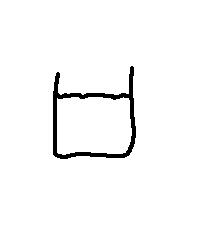
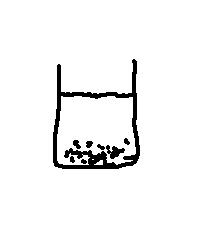
**2.6 – Solubility**

Solubility – in simpler terms, refers to the ability or the amount of a substance that will dissolve into another substance. For example,

Solvent – a liquid that is capable of dissolving other substances **(the DISSOLVER)**

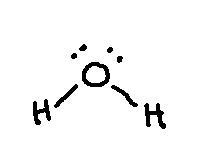
Solute – matter that is dissolved into another substance **(the DISSOLVEE)**

Now, let’s rewrite the definition of solubility. It is the ability or measure of a solvent that dissolves solute.

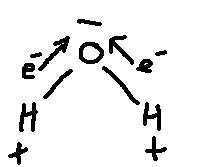
* **Saturation**: A solution becomes saturated when the maximum amount of solute is dissolved into solution. If a solution can still dissolve more solute, it is unsaturated.
* A solution is then a homogeneous mixture; that is, it appears uniform in composition. It remains this way until it is saturated.
* If a solution is saturated, any more solute added will not dissolve. This will result in a heterogeneous mixture; that is, more than one substance is clearly visible.

Homogeneous Mixture Heterogeneous Mixture

**Water as a solvent**

* Water is referred to as the “universal solvent”. You may have also commonly heard of the term to “water something down”. Water has the amazing ability to dissolve many things. Why? Let’s look at the shape of a water molecule:

Water is a bent molecule.

* **Polarity**: Oxygen is very electronegative. This makes water a very polar molecule.
* Water can dissolve any ionic compounds and other polar compounds.
* What about OIL?

**A few solubilities for examples…**

* Sucrose: 181.9g per 100g of water at 0 degrees
* Hydrogen chloride: 81g per 100g of water at 0 degrees
* Rubidium perchlorate: 22g per 100g of water at 100 degrees

**Properties that affect solubility**

1. Temperature
2. Pressure
3. Molecular Size
4. Polarity

* How do you think each one affects solubility?